Amendments to the Claims:

Re-write the claims as set forth below. This listing of claims will replace all prior versions and listings, of claims in the application:

Listing of Claims:

1. – 3. (Canceled)

5. (Previously presented) A method for rate control for a constant-bit-rate finite-buffer-size video encoder comprising:

calculating a reference global complexity for each I frame encoded;

calculating a reference power value for each I frame encoded;

calculating a power value for subsequent frames;

calculating a global complexity by multiplying the reference global complexity by the power value and dividing by the reference power value; and

using the global complexity to adjust a frame size.

6. – 26. (Canceled)

27. (Previously presented) Apparatus for rate control for a constant-bit-rate finite-buffer-size video encoder comprising:

a prediction error image block to determine L1 distances according to sums of absolute differences;

a complexity estimator block coupled to the prediction error image block to determine non-intra pixel block complexity values and intra pixel block complexity values; and

a number-of-bit predictor operatively coupled to the prediction error image block to receive the L1 distances and to the complexity estimator block to receive the non-intra pixel block complexity values and the intra pixel block complexity values, the number-of-bit predictor to predict a number of bits generated by the video encoder.

28. – 29. (Canceled)

30. (Previously presented) A method for rate control for a constant-bit-rate finite-buffer-size video encoder comprising:

obtaining a prediction error frame including a plurality of pixel-level error values;

calculating a sum of absolute values of the pixel-level error values for a pixel block of the frame;

calculating an expected number of bits for each pixel block in the frame by multiplying a pixel block complexity value for the pixel block by the sum of the absolute values of the pixel-level error values for the pixel block and dividing by a target quantizer step size for the frame;

using the calculated expected number of bits for each pixel block located in the frame to calculate an expected number of bits for the frame; and

using the expected number of bits for the frame to obtain constant-bit-rate video encoding.

31. (Previously presented) The method of claim 30 wherein the calculating the expected number of bits for the frame further comprises:

summing the expected number of bits for each pixel block in the frame.

32. (Previously presented) Apparatus for rate control for a constant-bit-rate finite-buffer-size video encoder comprising:

a prediction error image block to determine L1 distances according to sums of absolute differences;

a picture-level rate control block operatively coupled to the prediction error image block to receive the L1 distances and to produce a target quantizer step size for a pixel block; and

a complexity estimator block operatively coupled to the prediction error image block to determine non-intra pixel block complexity values and intra pixel block complexity values,

wherein the prediction error image block determines a scene change and provides a scene change indication to the complexity estimator block, the complexity estimator block resetting a global complexity value upon receipt of the scene change indication.

33. (Canceled)